

Listing of the Claims:

1. (Currently amended) A battery comprising:
a bipolar electrode stack comprising:
a collector,
a cathode electrically connected to a first side of the collector,
an anode electrically connected to a second side of the collector, and
one or more electrolyte-layers of liquid electrolyte overlaying the cathode and
anode, wherein the collector comprises a high-polymer material containing a plurality of
electrically conductive particles, wherein the high-polymer comprises one or more of
polyethylene terephthalate, polyimide and polyamide, and wherein the cathode and anode directly
contact at least a portion of a surface of the high-polymer material of the collector.
2. (Canceled).
3. (Currently amended) The battery of claim [[2]] 1, wherein the electrically
conductive particles are metal particles or carbon particles.
4. (Canceled).
5. (Previously presented) The battery of claim 1, wherein the high-polymer
comprises an electrically conductive polymer.
6. (Previously presented) The battery of claim 5, wherein the electrically
conductive polymer comprises one or more of poly aniline, polypyrrole, polythiophene,
polyacetylene, polyparaphenylene, poly(phenylene)vinylene, polyacrylonitrile, and
polyoxadiazole.

7. (Previously presented) The battery of claim 1, wherein the high-polymer material exhibits a weight average molecular weight of from about 50,000 Daltons to about 1 million Daltons.

8. (Previously presented) The battery of claim 1, further comprising an electrode extracting plate electrically connected to a side of the collector.

9. (Previously presented) The battery of claim 8, wherein the electrode extracting plate comprises a metal foil.

10. (Currently amended) A battery module comprising:
a plurality of electrically connected bipolar electrode stacks, wherein each of the bipolar electrode stacks comprises a collector, a cathode electrically connected to a first side of the collector, an anode electrically connected to a second side of the collector, and one or more electrolyte layers of liquid electrolyte overlaying the cathode and anode; wherein the collector of each of the bipolar electrode stacks comprises a high-polymer material of one or more of polyethylene terephthalate, polyimide and polyamide containing a plurality of electrically conductive particles, and wherein the cathode and anode directly contact at least a portion of the high-polymer material of the collector.

11. (Previously presented) A battery module according to claim 10, wherein the battery module is mounted on or within a vehicle.

12. (Currently amended) A method for manufacturing a bipolar electrode assembly comprising:

forming a collector by applying a high-polymer material to a collector surface of one or more of polyethylene terephthalate, polyimide and polyamide comprising a plurality of electrically conductive particles in a desired form using an inkjet printing method to form a

collector;

applying a cathode material layer to a first side of the high-polymer material of the collector;

applying an anode material layer to a second side of the high-polymer material of the collector;

applying a first electrolyte layer of liquid electrolyte overlaying the cathode material layer; and

applying a second electrolyte layer of liquid electrolyte overlaying the anode material layer.

13. (Previously presented) The method of claim 12, wherein applying the cathode layer is carried out using an inkjet printing method.

14. (Previously presented) The method of claim 12, wherein applying the anode layer is carried out using an inkjet printing method.

15. (Previously presented) The method of claim 12, wherein the ink jet printing method is a piezoelectric inkjet printing method.

16. (Previously presented) The method of claim 12, further comprising curing the high polymer material.

17. (Previously presented) The method of claim 16, wherein curing is carried out using thermal curing or radiation curing.

18. (Previously presented) The method of claim 12, further comprising laminating together the first electrolyte layer, the cathode layer, the collector, the anode layer, and the second electrolyte layer to form a bipolar electrode cell.

19. (Previously presented) The method of claim 18, further comprising: forming a plurality of bipolar electrode cells in a stack; and electrically connecting each of the bipolar electrode cells to form a battery.

20. (Previously presented) The method of claim 19, further comprising: forming a plurality of batteries; and electrically connecting the plurality of batteries to form a battery module.

21. (Previously presented) The battery of claim 1, wherein the plurality of electrically conductive particles comprises two or more types of electrically conductive particles.